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## First measurement of the quadrupole moment of the $2_1^+$ state in $^{108}\text{Sn}$ and $^{110}\text{Sn}$

Recent Monte Carlo Shell Model (MCSM) calculations made by T. Togashi et. al. [Phys. Rev. Lett. 121, 062501 (2018)] attempt to account for discrepancies observed between measurements and previous theoretical calculations of the reduced transition probability  $B(E2; 2_1^+ \rightarrow 0_1^+)$  in the neutron deficient Sn isotopes. One of the predictions of the MCSM calculation is that a shape change should occur for the  $2_1^+$  state between  $^{108}\text{Sn}$  and  $^{110}\text{Sn}$ . In this work we present the first experimental results for the quadrupole moment for this state in  $^{108}\text{Sn}$  and  $^{110}\text{Sn}$ , along with a more precise determination of the reduced transition probability  $B(E2; 2_1^+ \rightarrow 0_1^+)$  in order to address this question. The measurement results were obtained through a safe Coulomb excitation experiment at HIE-ISOLDE, using the Miniball setup. A novel analysis approach combining GOSIA and GOSIA2 codes with a DSAM measurement was used to calculate both diagonal and transitional matrix elements. Preliminary results are compared to MCSM calculations and observations regarding a shape change in the  $2_1^+$  state are discussed.

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